

Grade: 4th – Adult
Time: 1 hour
Season: All

Owl Pellet

National Science Teaching Standards

A. Science as INQUIRY

C. LIFE Science

Background Information:

Owls are not picky eaters like certain other raptors. They swallow their prey as nearly whole as possible. Fur, feathers and bones, however, cannot be digested nor will they pass through the digestive system. About 12 hours after consuming a meal, an owl casts, or regurgitates a pellet.

Owls are not the only birds that cast pellets. Over 300 species of birds cast pellets. They include eagles and hawks as well as smaller birds like robins and tree sparrows.

Owl pellets are clean of all flesh and virtually odorless. After a short drying period they can be handled easily by all age groups. Pellets will keep almost indefinitely if dry and protected in a plastic bag or closed jar.

Owl pellets have been used for scientific study of small mammals and their distribution. With owls doing the collecting, the scientist must only locate the owl roost to obtain the skulls and bones of the small prey living in the area. From these parts, the species can be identified. This has helped map the areas occupied by certain small creatures that might otherwise have escaped detection.

Once the bones are separated from the mass of fur in the pellet, a number of anatomy lessons are possible. Hip bones and upper leg bone with large ball joint are easily identified. The scapula or shoulder blade, ribs, other leg bones vertebrae and foot bones along with skull are all recognizable when sorted out.

Objective:

- The students will be able to identify some of the animals in an owl's diet.
- The students will be able to construct a simple food chain including an owl.

Pre Activity:

- Have students (in groups) research: Great-horned owl, barred owl, screech owl. Be sure to bring that information to Springbrook for the owl pellet activity.
- Familiarize the students with key words: carnivore, predator, prey, food chain, food web.
- Share background information with students.

Equipment:

- Owl pellets (1 pellet for 2-3 students)
- Probes

- Tweezers
- Small posterboard pieces
- Glue
- Diagrams to use for identification
- Posters to use for identification
- Newspapers
- Pencils

Procedure:

1. Have students briefly share research on owls they brought with them. If they did not bring any, you share some facts about owls with students.
2. Discuss dissecting, its purpose, and ethics.
3. Discuss use of tools and how they are to be carefully used and only for dissection of the owl pellet.
4. Divide the students into groups of 2-4.
5. Pass out newspaper and have students spread it out on tables.
6. Have students help pass out equipment.
7. Before passing out owl pellets, unwrap one so the students can see what it is like. Reassure them it is clean.
8. Show them how to slowly and carefully using tweezers and probes pull the fur back from the pellet and discover the bones.
9. As they discover bones, help them use identification sheets to find out which bone it is and possibly which mammal it belongs to.
10. Encourage students to glue bones on posterboard pieces and identify the bone and animal.
11. If a student is “squeamish” just let them watch and do not force them to dissect the pellet.
12. Let students keep posterboard displays and discard all other pieces and paper.
13. Collect tools.
14. Have partnerships share what they discovered.
15. Using food web poster and bones try to piece together a food chain involving an owl.

Post Activity:

- Draw a food chain involving an owl.
- Researching other animals from the woodland habitats, try to create other food chains from the woods. Try to connect these chains and make a food web.
- Write a paragraph or poem using these key words: carnivore, predator, prey, owl, rodent, food web, food chain.
- Encourage students to read books from the Guardians of Ga’Hoole series. These are fictional books based on much owl research.
- Read-aloud: *The Owl in the Shower*. This book is fictional about spotted owls. It is excellent for showing both sides of environmentalists and lumbering in the Northwest USA. After reading this book have a class debate sharing both views. Research what federal/state laws have been enacted to protect endangered species. (All of these books are 3-6 grade level.)

Post Discussion:

- Have students share food chains and food webs they learned while compiling dissecting data.
- Have students share their feelings about dissecting.
- Scientists often have to dissect specimens to learn about human beings; how do you feel about that?
- You shared your owl pellet findings with your classmates; how do you think scientists share the data they discover?
- Why is important for scientists to share information (not just owl pellet info)?
- How do you scientists from Japan share data with scientists in Iceland?
- Why is important for scientists to keep data?

Reference: *Project Wild K-12 Activity Guide*, Owl Pellets pp.144-145, 1992.